

What is claimed is:

1. A delivery sheath for an intravascular emboli capturing filter comprising:
an elongate tube having a distal region, a distal end, and a lumen therethrough,
wherein said distal region has a length and a distal region wall having a thickness,
wherein said distal region wall thickness is distally decreasing.

2. A delivery sheath for an intravascular emboli capturing filter as in claim 1,
wherein said distal region length is less than about 10 millimeters.

3. A delivery sheath for an intravascular emboli capturing filter as in claim 1,
wherein said distal region length is less than about 5 millimeters.

4. A delivery sheath for an intravascular emboli capturing filter as in claim 1,
wherein said distal region length is less than about 2 millimeters.

5. A delivery sheath for an intravascular emboli capturing filter as in claim 1,
wherein said distal region length is less than about 1 millimeter.

6. A delivery sheath for an intravascular emboli capturing filter as in claim 2,
wherein said distal region has a distally decreasing outside diameter.

7. A delivery sheath for an intravascular emboli capturing filter as in claim 6,
wherein said distal region length is less than about 10 millimeters.

8. A delivery sheath for an intravascular emboli capturing filter as in claim 6, wherein said distal region length is less than about 5 millimeters.

9. A delivery sheath for an intravascular emboli capturing filter as in claim 6, wherein said distal region length is less than about 2 millimeters.

10. A delivery sheath for an intravascular emboli capturing filter as in claim 6, wherein said distal region length is less than about 1 millimeter

11. A delivery sheath for an intravascular emboli capturing filter as in claim 1, wherein said distal region has a wall thickness of less than about 0.001 inch thick.

12. An intravascular emboli filter system comprising:
an elongate shaft having a distal region;
an expandable emboli filter operably coupled to said elongate shaft distal region;
and
an elongate sheath having a lumen therethrough and a sheath wall, said sheath slidably disposed over said elongate shaft and having a distal region and a distal end, wherein said distal region sheath wall has a distally decreasing taper.

13. An intravascular emboli filter system as in claim 12, wherein said sheath distal region wall has a distally decreasing wall thickness.

14. An intravascular emboli filter system as in claim 13, wherein said sheath distal region has a length of less than about 10 millimeters.

15. An intravascular emboli filter system as in claim 13, wherein said sheath distal region has a length of less than about 5 millimeters.

16. An intravascular emboli filter system as in claim 13, wherein said sheath distal region has a length of less than about 2 millimeters.

17. An intravascular emboli filter system as in claim 13, wherein said sheath distal region has a length of less than about 1 millimeter.

18. An intravascular emboli filter system as in claim 17, wherein said sheath distal region has a thickness of less than about 0.001 inch.

19. An intravascular emboli filter system as in claim 17, wherein said expandable emboli filter has an expanded state and a non-expanded state, and said sheath is cooperatively sized relative to said filter such that said sheath can contain said emboli filter while in said non-expanded state.